

20 October 1975

MEMORANDUM FOR: Director of Joint Computer Support

SUBJECT : [REDACTED] Design Review

1. We attended a design review on the RAPID system at the request of [REDACTED] held at [REDACTED] company headquarters in [REDACTED] California on October 6 through Oct. 9, 1975. Attending were:



The first two days were devoted to detailed technical briefings by [REDACTED] personnel responsible for various software and hardware portions of the system, interviews with other company officials in areas contributing to RAPID development, and demonstrations of parts of the system. [REDACTED] arrived for the third and fourth days which were devoted to discussions and negotiations with senior [REDACTED] management. The morning of the third day we briefed those who did not take part in the technical sessions; the morning of the fourth day we briefed [REDACTED] management on what we had found. The rest of the time was devoted to negotiating a contract amendment.

2. Our strategy for the technical discussions centered around determining how the system is to work internally and where in the development cycle they were so as to be able to answer the following questions for [REDACTED] management:

- ° why has slippage occurred?
- ° can they finish? If so, what is the likely time frame to finish?

- What is the expected quality and performance of the system?
- Will the system be viable in a production environment?
- Will the system be maintainable and expandable?
- What level of confidence do we have in answers to the above?
- What specific actions do we recommend?

3. Our conclusions as reported to management
were:

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1. Slippage has occurred for the following reasons:

- the design specification took too long to freeze;
- personnel problems with two programmers necessitated starting over in two key areas;
- hardware problems with serial number one equipment;
- inadequate software development tools;
- poor management control of project resources;
- no standards for development or documentation;
- poor communications between members of the project team and with others in the company;
- the contract was a buy-in, the contractor had no hope of meeting the original schedules.

2. The people on the project are very technically competent and have an excellent grasp of what is to be done and how to do it. Their largest shortcoming is management.

3. They are likely to finish, but probably not before May-June, 1976. Substantial measurable progress has been

made in the software development area; most of the hardware required has been manufactured and is available with the notable exception of the terminals.

4. The system, when delivered, is likely to fulfill the functional requirements set forth by

[REDACTED]

5. Most of the code developed is modular and understandable and therefore should be maintainable by us. Functional expansion will be difficult because of severe memory problems in the CPU's.

6. System viability in a production environment in the area of data integrity, recoverability, and performance cannot be judged at this time. Data integrity and recoverability software and procedures have not yet been designed; no adequate analysis was performed during design to ensure adequate performance in the data management computer or the text editing computer. The assumption was simply made that they would work.

4. Our basic recommendations were that [REDACTED] be allowed to finish the system, that no hardware be shipped until a complete system test is performed at the contractor's site, and that future progress payments be tied to demonstrable milestones. In conjunction with [REDACTED] we drew up and submitted a list of milestones. Contract negotiations are now on-going for an amendment. We have not seen the wording but expect that it will be reasonably consistent with the above.

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cc:

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